IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: **Stephane RIMAUX** Group Art Unit: **3664**

Serial Number: **10/538,172** Examiner: **Jonathan A. Goldfarb**

Filing or 371 date: **June 9, 2005** Confirmation No.: **1706**

For: **METHOD OF CVT CONTROL IN A VEHICLE FOR ADAPTING ITS NOISE CHARACTERISTICS WITH PERMANENT AND TRANSIENT MODES (as amended)**

Attorney Docket Number: **052598**
Customer Number: **29980**

PRE-APPEAL BRIEF – REQUEST FOR REVIEW

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

May 19, 2008

Sir:

This request is being filed concurrent with a Notice of Appeal in compliance with 37 C.F.R. §41.31. Applicants request review of the final rejections in the above-identified application. No amendments are being filed with this Request. Claims 1-18 are pending in the application. Claim 1 is the only independent claim.

I. Obviousness rejection based on Osanai

Claims 1-18 stand finally rejected under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 4,704,683 to Osanai ("Osanai") in view of U.S. Patent No. 6,188,946 to Suzuki et al. ("Suzuki"). However, the Examiner has failed to make a *prima facie* case of obviousness.

As acknowledged by the Examiner, Osanai is silent regarding the permanent mode with non-zero mean variation. Further, contrary to the Examiner's assertion, Suzuki does not remedy the deficiencies of Osanai. In particular, both Osanai and Suzuki are completely silent regarding

threshold values (S_1) and (S_2) as recited in present claim 1, let alone a non-zero mean variation of the gear ratio that "*lies between a first threshold value (S_1) that is negative and a second threshold value (S_2) that is positive*" in the permanent mode and that "*lies outside the range of values defined by the first and second threshold value (S_1, S_2)*" in the transient mode, as recited in present claim 1.

Specifically, Osanai discloses a stepped gear ratio with **fixed** gear ratio during permanent phases and rapidly changing gear ratio during transition phases, as illustrated on Figure 2 of Osanai. This is particularly visible by the second curve from the top on Fig. 2 of Osanai, which shows a "speed ratio" curve. In Osanai, the permanent modes are the periods with the horizontal lines (no adjustment of the speed ratio, i.e., this corresponds precisely to the fixed gear ratio of a manual gear box) and the transient modes are the periods with the steep lines (quick change in the speed ratio).

Turning to Suzuki, the Examiner is in error when he asserts (Office Action dated December 17, 2007 at page 3, section 5):

> Osanai is silent regarding a permanent mode with positive mean variation between thresholds. Suzuki teaches this element [abstract, Fig. 3 and related text].

Namely, there is absolutely **no indication** in Suzuki of any set mean variation in any of these periods, let alone the combination of such a permanent mode and a transient mode, as in the presently claimed invention. Further, Suzuki is also completely silent regarding threshold values

(S_1) and (S_2) as recited in present claim 1 and setting a mean variation of the gear ratio to lie within the range defined by the thresholds in the permanent mode and outside of that range in the transient mode.

Rather, Suzuki imposes an upshift prohibition zone at low speed values to facilitate starting on an uphill or in low friction conditions. Fig. 4 of Suzuki shows the variation of the relevant parameters with time. Thus, i_p is the target upshift threshold which is adjusted at time t_{spin} to take into account low friction conditions. This threshold i_p is then adjusted progressively until it becomes fixed when the vehicle stands still again at time t3. The routine of Suzuki adjusts the value ip* with time (see the time period ts1-t2 on Fig. 4), but there is never a set mean variation for this value ip*.

In particular, contrary to the Examiner's assertions (see, e.g., Advisory Action dated April 10, 2008), Fig. 3 of Suzuki does not relate to the variation of the gear ratio with time, but to a map of the gear ratio as a function of vehicle speed (abscissa) and transmission speed (ordinate). Further, the "speed-change permission zone" in Fig. 3 of Suzuki does not define the variation of the speed ratio, except that it is allowed to be non-zero.

In view of the above, it is submitted that the rejection should be withdrawn.

II. Obviousness rejections based on Nakawaki

Claims 1-3 stand finally rejected under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 4,836,056 to Nakawaki et al. ("Nakawaki") in view of U.S. Patent No. 6,188,946 to Suzuki et al. ("Suzuki"). Further, claims 10-13 stand finally rejected under 35 U.S.C. 103(a) as obvious over

Osanai in view of Suzuki and further in view of Nakawaki, claim 16 stands finally rejected under 35 U.S.C. 103(a) [the Office Action indicates section 102(b) but this is understood as a typographical error] as obvious over Osanai in view of Suzuki and further in view of Nakawaki, and claims 17-18 stand finally rejected under 35 U.S.C. 103(a) as obvious over Osanai in view of Suzuki and further in view of FR 3,789,683 to Guichard et al. ("Guichard"). However, the Examiner has failed to make a *prima facie* case of obviousness.

As explained above in Part I, Suzuki is completely silent regarding a permanent mode having a set mean variation, let alone the combination of such a permanent mode and a transient mode, as in the presently claimed invention. Thus, Suzuki fails to remedy the deficiencies of the other cited references.

The Examiner's error regarding Suzuki and in particular Fig. 3 of Suzuki is clearly seen by comparing Fig. 3 of Suzuki with Fig. 9 of Nakawaki. Fig. 9 of Nakawaki shows a map of the gear ratio similar to Fig. 3 of Suzuki, with the additional indication of the permanent stages (gear ratio follows straight lines passing through zero, i.e., speed ratio is fixed) and transient stages (speed ratio goes from one of these straight lines to another, for example, r2 to r3). The routine of Suzuki adjusts the value ip* with time (see the time period ts1-t2 on Fig. 4), but there is never a set mean variation for this fixed value ip*. Thus, Suzuki is consistent with keeping permanent stages and transient stages as in Nakawaki (or as in Osanai). As a result, Suzuki fails to suggest or provide any incentive or motivation to modify the permanent stages of Nakawaki (or Osanai), according to which the mean variation of the gear ratio is zero.

In view of the above, it is submitted that the rejections should be withdrawn.

Conclusion

In summary, the teaching of Suzuki focuses only to the starting phase of the vehicle (t1 to t3 on Fig. 4 of Suzuki), and Suzuki does not provide any incentive to modify the permanent and transient modes of Osanai or Nakawaki, and especially not to establish threshold values (S_1) and (S_2) as recited in present claim 1, let alone a non-zero mean variation of the gear ratio that "*lies between a first threshold value (S_1) that is negative and a second threshold value (S_2) that is positive*" in the permanent mode and that "*lies outside the range of values defined by the first and second threshold value (S_1, S_2)*" in the transient mode, as recited in present claim 1. Therefore, it is submitted that the rejections should be withdrawn.

Please charge any fees which may be required to our Deposit Account No. 502759.

Respectfully submitted,

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